

What Is Claimed Is:

1. A magnetoresistive layer system, in an environment of a magnetoresistive layer stack (14) that works particularly on the basis of the GMR effect or the AMR effect, a layer array (15) being provided which generates a magnetic field which acts upon the magnetoresistive layer stack (14), and the layer array (15) having at least one hard magnetic layer (12) and one soft magnetic layer (13).
2. The magnetoresistive layer system as recited in Claim 1, wherein the hard magnetic layer (12) and the soft magnetic layer (13) are ferromagnetically exchange coupled.
3. The magnetoresistive layer system as recited in Claim 1 or 2, wherein the layer array (15) is situated on and/or below and/or next to the layer stack (14).
4. The magnetoresistive layer system as recited in one of the preceding claims, wherein the layer array (15) has a plurality of soft magnetic layers (13) and hard magnetic layers (12), which are particularly able to be combined into layer pairs having a hard magnetic layer (12) and a soft magnetic layer (13) that is adjacent to it.
5. The magnetoresistive layer system as recited in one of the preceding claims, wherein the soft magnetic layer (13) is made of a CoFe alloy, Co, Fe, Ni, an FeNi alloy as well as magnetic alloys which contain these materials.
6. The magnetoresistive layer system as recited in one of the preceding claims, wherein the soft magnetic layer (13) has a thickness between 1 nm and 50 nm, especially 1 nm to 10 nm.
7. The magnetoresistive layer system as recited in one of the preceding claims, wherein the hard magnetic layer (12) is made up of a CoCrPt alloy, a CoSm alloy, a CoCr alloy, a CoCrTa alloy, a CoPt alloy or an FePt alloy.
8. The magnetoresistive layer system as recited in one of the preceding claims,

wherein the thickness of the hard magnetic layer (13) is between 20 nm and 100 nm.

9. A sensor element, especially for detecting magnetic fields with respect to strength and/or direction, having a magnetoresistive layer system (5) as recited in one of the preceding claims.